

# Work Order ID 92982

November-12-12 3:33:35 PM

\*92982\*

Page 1

Item ID: 647.9014

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: Strut Bracket

Start Date: 12/11/2012 Start Qty: 20.00

\*20\*

Cust Item ID:

Required Date: 03/12/2012 Req'd Qty: 20.00

\*20\*

Customer:

Reference:

Approvals: Process Plan: MCS Date: 12-11-13 Tooling:

Run Start \*NR1\*

QC: Date: SPC (Y/N):

Date:

Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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647.9000	N/C
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110

0.00

\*110\*

Waterjet

Memo

0.00

FLOW CNC Waterjet

1-Cut as per Dwg

Dwg Rev: N/C

Prog Rev: N/C

304.063

2-Deburr if necessary

120

QC2- Inspect parts off machine FAI/FAIB

0.00

\*120\*

QC

Memo

0.00

Quality Control

92982 (28)

NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  <div style="display: flex; justify-content: space-around;"> <span>Rework <input type="checkbox"/></span> <span>Skid-tube <input type="checkbox"/></span> </div> <div style="display: flex; justify-content: space-around;"> <span>Scrap <input type="checkbox"/></span> <span>Machining <input type="checkbox"/></span> </div> <div style="display: flex; justify-content: space-around;"> <span>Use-as-is <input type="checkbox"/></span> <span>Thermoforming <input type="checkbox"/></span> </div> <div style="display: flex; justify-content: space-around;"> <span>Work Order Update <input type="checkbox"/></span> <span>Large Fab <input type="checkbox"/></span> </div>	<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <div style="display: flex; justify-content: space-around;"> <span>Crosstube <input type="checkbox"/></span> <span>Water Jet <input type="checkbox"/></span> </div> <div style="display: flex; justify-content: space-around;"> <span>Small Fab <input type="checkbox"/></span> <span>Prod. Eng. Coord. <input type="checkbox"/></span> </div> <div style="display: flex; justify-content: space-around;"> <span>Finishing <input type="checkbox"/></span> <span>Rec/Store/Packaging <input type="checkbox"/></span> </div> <div style="display: flex; justify-content: space-around;"> <span>Composite <input type="checkbox"/></span> <span>Supplier <input type="checkbox"/></span> </div> </div> <div style="width: 30%;"> <div style="display: flex; justify-content: space-around;"> <span>Engineering <input type="checkbox"/></span> </div> <div style="display: flex; justify-content: space-around;"> <span>Quality <input type="checkbox"/></span> </div> <div style="display: flex; justify-content: space-around;"> <span>Other <input type="checkbox"/></span> </div> </div> </div>
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Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions
		<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

# Work Order ID 92982

November-12-12 3:33:35 PM

**\*92982\***

Page 2

Item ID: 647.9014

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Strut Bracket

Start Date: 12/11/2012 Start Qty: 20.00

**\*20\***

Cust Item ID:

Required Date: 03/12/2012 Req'd Qty: 20.00

**\*20\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

130

QC8- Inspect parts - second check

0.00

**\*130\***

QC

Memo

0.00

Quality Control

DAS  
15  
89  
12/11/19

28  
cont

140

Form as per dwg

0.00

**\*140\***

Brake NC

Memo

0.00

Brake NC

28  
13/01/10

150

QC5- Inspect part completeness to step on W/O

0.00

**\*150\***

QC

Memo

0.00

Quality Control

DAS  
21  
20  
13/4/11

28  
cont

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>					
<b>Root Cause</b>	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											
<b>FAULT CATEGORY</b>											
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other

# Work Order ID 92982

November-12-12 3:33:35 PM

**\*92982\***

Page 3

Item ID: 647.9014

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Strut Bracket

Start Date: 12/11/2012 Start Qty: 20.00

**\*20\***

Cust Item ID:

Required Date: 03/12/2012 Req'd Qty: 20.00

**\*20\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

190

0.00

**\*190\***

SprayPaint

Memo

0.00

Spray Painting

PRIME IAW MIL-P-23377J TYPE1 CLASS N AS PER DWG. (SEE NOTE 2)

PRIMER BATCH: 125452

28

0

0

13-6-1

200

QC14- Inspect Spray Paint

0.00

**\*200\***

QC

Memo

0.00

Quality Control

13/06/05

28

cont

210

Identify as per dwg & Stock Location: 51537

0.00

**\*210\***

Packaging

Memo

0.00

Packaging

\*\*\*IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV\*\*\*

28 11.10.13-06-6

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>					
<b>Root Cause</b>	<b>Date</b>	<b>Step</b>	<b>Qty</b>	<b>Description of work order update or Non-conformance</b>	<b>Initial Chief Eng</b>	<b>Action Description</b>	<b>Sign &amp; Date</b>	<b>Verification</b>	<b>QC Inspector</b>		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											
<b>FAULT CATEGORY</b>											
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other

**Work Order ID 92982**

November-12-12 3:33:35 PM

**\*92982\***

Page 4

Item ID: 647.9014

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Strut Bracket

Start Date: 12/11/2012 Start Qty: 20.00

**\*20\***

Cust Item ID:

Required Date: 03/12/2012 Req'd Qty: 20.00

**\*20\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

220

QC21- Final Inspection - Work Order Release

0.00

**\*220\***

QC

Memo

0.00

Quality Control

~~2/11/12~~ ~~11/11/12~~ ~~12/06/12~~  
12/16/12

12-06-12

NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  <div style="display: flex; justify-content: space-between;"> <div> Rework <input type="checkbox"/>  Scrap <input type="checkbox"/>  Use-as-is <input type="checkbox"/>  Work Order Update <input type="checkbox"/> </div> <div> Skid-tube <input type="checkbox"/>  Machining <input type="checkbox"/>  Thermoforming <input type="checkbox"/>  Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/>  Small Fab <input type="checkbox"/>  Finishing <input type="checkbox"/>  Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/>  Prod. Eng. Coord. <input type="checkbox"/>  Rec/Store/Packaging <input type="checkbox"/>  Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/>  Quality <input type="checkbox"/>  Other <input type="checkbox"/> </div> </div>		<b>AGAINST DEPARTMENT/PROCESS</b>						
<b>Root Cause</b>	<b>Date</b>	<b>Step</b>	<b>Qty</b>	<b>Description of work order update or Non-conformance</b>	<b>Initial Chief Eng</b>	<b>Action Description</b>	<b>Sign &amp; Date</b>	<b>Verification</b>	<b>QC Inspector</b>			
Doc/Data <input type="checkbox"/>												
Equip/Tooling <input type="checkbox"/>												
Operator <input type="checkbox"/>												
Material <input type="checkbox"/>												
Setup <input type="checkbox"/>												
Other <input type="checkbox"/>												
Process <input type="checkbox"/>												
Supplier <input type="checkbox"/>												
Training <input type="checkbox"/>												
Unapproved <input type="checkbox"/>												

FAULT CATEGORY			
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio	<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions	<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge  <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other



# Picklist Print

November-12-12 3:33:39 PM

Page 1

Work Order ID: 92982

\*92982\*

Parent Item: 647.9014

\*647 9014\*

Parent Item Name: Strut Bracket

Start Date: 12/11/2012

Required Date: 03/12/2012

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP REV: A 12.11.01 NEW ISSUE DD VERFJLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S16GA		Purchased	No			110	sf	324.8080	0.033	0.694737	1.5		

\*M304S16GA\*

\*\*

12-11-17

304/316 Sheet .063

Location

Loc Qty

Loc Code

MAT020

324.808

122245

51.078

122753

49.63

123136

224.1

123136

28

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/>            Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/>            Quality <input type="checkbox"/>            Other <input type="checkbox"/> </div> </div>						
<b>Root Cause</b>	<b>Date</b>	<b>Step</b>	<b>Qty</b>	<b>Description of work order update or Non-conformance</b>	<b>Initial Chief Eng</b>	<b>Action Description</b>	<b>Sign &amp; Date</b>	<b>Verification</b>	<b>QC Inspector</b>			
Doc/Data <input type="checkbox"/>												
Equip/Tooling <input type="checkbox"/>												
Operator <input type="checkbox"/>												
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<b>FAULT CATEGORY</b>												
<b>Landing Gear</b> <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			<b>General</b> <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other	

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTIC NO. 03266			SHEET 1 OF 2	
	DWG NO. 647.9000	REV: N/C	PREPARED BY A. QUAN	DATE: 11/15/11	EFFECT ON DWG <input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC.
	DWG TITLE: SHEETMETAL				
APPROVED BY: ENGR <i>[Signature]</i>		MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF: CURRENT ORDER AND STOCK	
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: REVISED 647.9014 MATERIAL, REVISED DIMENSIONS OF P/N 647.9012			

# **SHEET 1, NOTES:**

NOTES: UNLESS OTHERWISE SPECIFIED

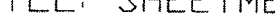


- 1 MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK;  
PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N
3. DEBURR AND BREAK ALL SHARP EDGES
4. IDENTIFY IAW MPP-120. LASER ETCH P/N AND REVISION 12PT. CENTURY GOTHIC.
5. ALL DIMENSIONS SHOWN PRIOR TO FINISH.
- 6 PART DIMENSIONS CONTROLLED BY CAD MODEL; FILE NAME: 647.9016 DOUBLER.SLDPRT-LAST MODIFIED 06-29-10
7. INSPECTION DIMENSIONS SHOWN WITH FINISH APPROX. 3-5 MIL MAX PER FACE.
- 8 MATERIAL: 304SS IAW AMS 5643
- 9 FINISH: PRIME IAW MIL-P-23377J, TYPE I, CLASS N

IS

SHIP COPY  
FURNISH TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 92982 MCT  
12-11-13

5	R	647.9014		STRUT BRACKET	8	9
F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATION
DOCUMENTS EFFECTED:				<input type="checkbox"/> MDL <input type="checkbox"/> INSTALL INSTRUC <input type="checkbox"/> ICA <input checked="" type="checkbox"/> BOM	CHANGE CATEGORY <input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR	DER REVIEW REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO



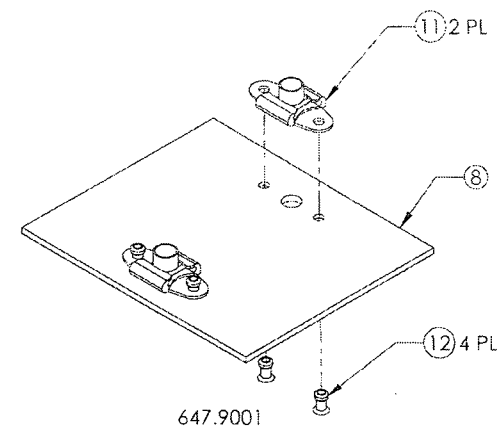
APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTIC. NO. 03213				SHEET 1 OF 1	
	DWG NO. 647.9000		REV: N/C	PREPARED BY A. QUAN	DATE: 11/09/11	EFFECT ON DWG <input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC.
	DWG TITLE: SHEETMETAL					
APPROVED BY: ENGR 		MFG 	QC 	EFF: CURRENT ORDER AND STOCK		
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: REVISED 647.9013 DIMENSIONS				

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATION
DOCUMENTS EFFECTED:				<input type="checkbox"/> MDL <input type="checkbox"/> INSTALL INSTRUC <input type="checkbox"/> ICA <input type="checkbox"/> BOM	CHANGE CATEGORY <input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR	DER REVIEW REQUIRED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

92982

NOTES: UNLESS OTHERWISE SPECIFIED

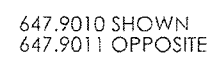
- 1 MATERIAL: ALUMINUM 2024-T3 PER AMS-QQ-A-250/4
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK;  
PRETREAT PR-148 ADHESION PROMOTER, PRIME IAW MIL-P-23377J, TYPE I, CLASS N
3. DEBURR AND BREAK ALL SHARP EDGES
4. IDENTIFY IAW MPP-120. LASER ETCH P/N AND REVISION 12PT. CENTURY GOTHIC.
5. ALL DIMENSIONS SHOWN PRIOR TO FINISH.
- 6 PART DIMENSIONS CONTROLLED BY CAD MODEL; FILE NAME: 647.9016 DOUBLER.SLDPRT-LAST MODIFIED 06-29-10
7. INSPECTION DIMENSIONS SHOWN WITH FINISH APPROX. 3-5 MIL MAX PER FACE.



UNINCORPORATED ECN(s)

03213, 03246

QTY	FIND #	PART #	DESCRIPTION	MAT'L	SPEC.
4	12	601.2277	RIVET	CCP26/SS 3-02	
2	11	601.1900	NUTPLATE	MS21059-3	
	10	647.9019	HINGE	△	△
	9	647.9018	DOUBLER	△	△
1	8	647.9017	DOUBLER	△	△
	7	647.9016	DOUBLER	△	△
	6	647.9015	DOUBLER	△	△
	5	647.9014	STRUT BRACKET	△	△
	4	647.9013	FWD CLIP	△	△
	3	647.9012	FWD CLIP	△	△
	2	647.9011	DOUBLER	△	△
	1	647.9010	DOUBLER	△	△
		647.9001	DOUBLER ASSY	△	△
QTY	FIND #	PART #	DESCRIPTION	MAT'L	SPEC.
NEXT ASSY (S)			PARTS LIST		
647.8900			APICAL INDUSTRIES		
647.9400			2608 TEMPLE HEIGHTS DR.		
			OCEANSIDE, CA, 92056-3512 (760)724-5300		
			SHEETMETAL		
			SCALE: NONE		
			SHEET 1 OF 9		

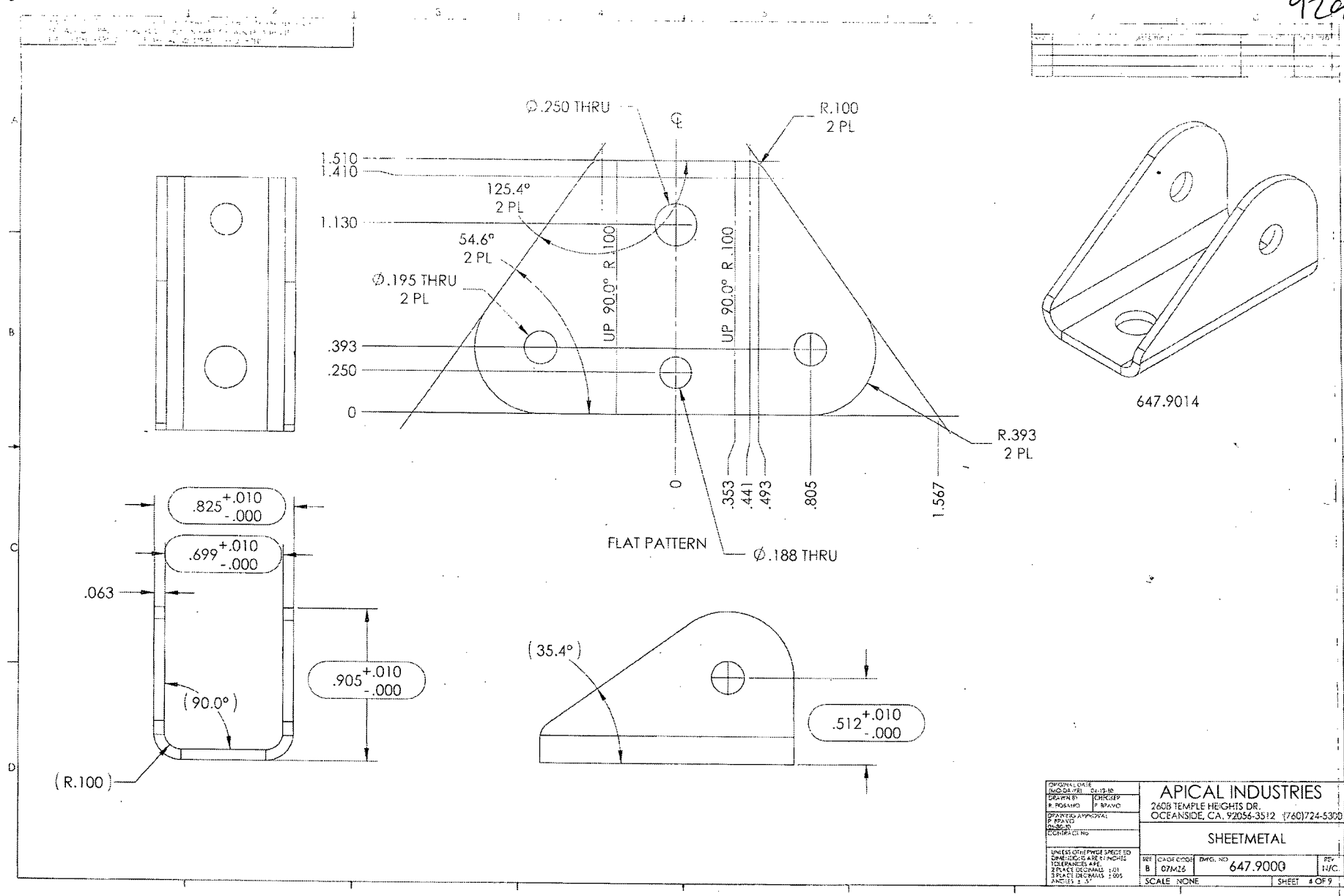
[illegible]

CONCRETE DATE 04/25/85 04/25/85		APICAL INDUSTRIES	
DRAWN BY: J. ROBERTS		2608 TEMPLE HEIGHTS DR.	
P. FOLIO: 02		OCEANSIDE, CA. 92056-3512	
CHECKING APPROVAL: DATE: 04/25/85		760/724-5300	
CONTRACT NO.		SHEET METAL	
UNLESS OTHERWISE SPECIFIED STANDARD AISC REQUIREMENTS FOR FASTENERS AND STITCHES OR OTHERS APPLY TO ALL WELDS: 5"		SIZE 04/25/85	647.9000
SCALE NONE		SHEET 2	OF 9

OFFICIALS D-72 MOCHA-551 24-3-D	APICAL INDUSTRIES		
TRAFFIC ST OFFICER S. AQUINO S. RAY	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA 92056-2512 (760)724-5300		
DRAWING APPROV S. RAY	SHEETMETAL		
PRODUCT NO	REF	CAGE CODE	QTY. NO
	B	07M26	647.9000
	ALL	MTG	QTY. NO
			N/A

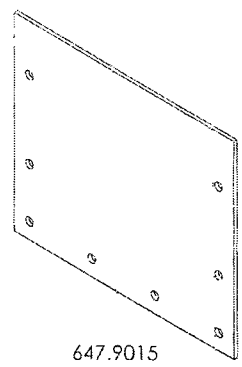
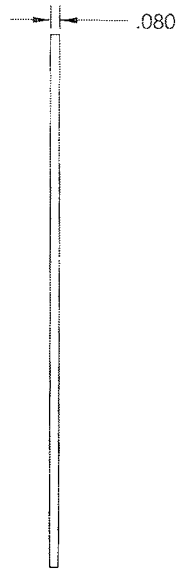
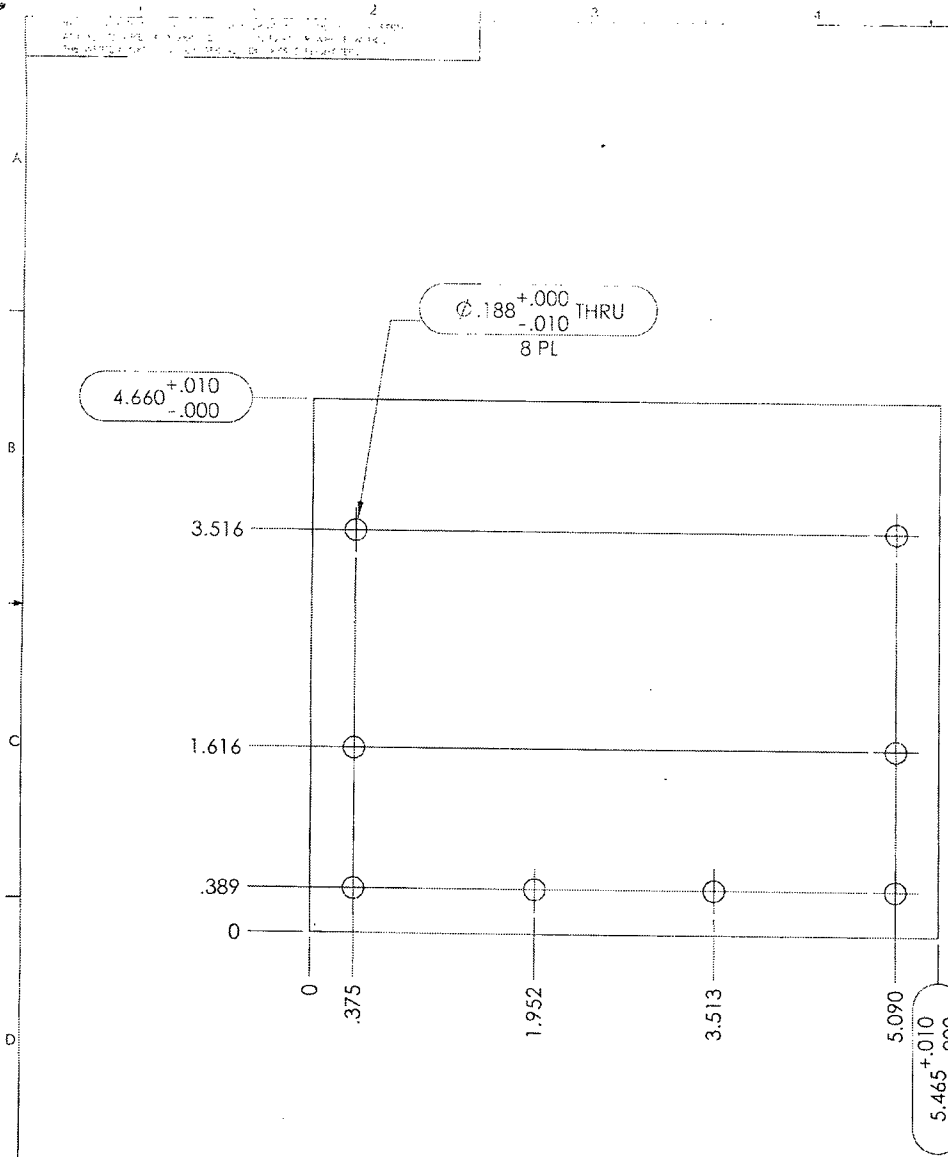


92982



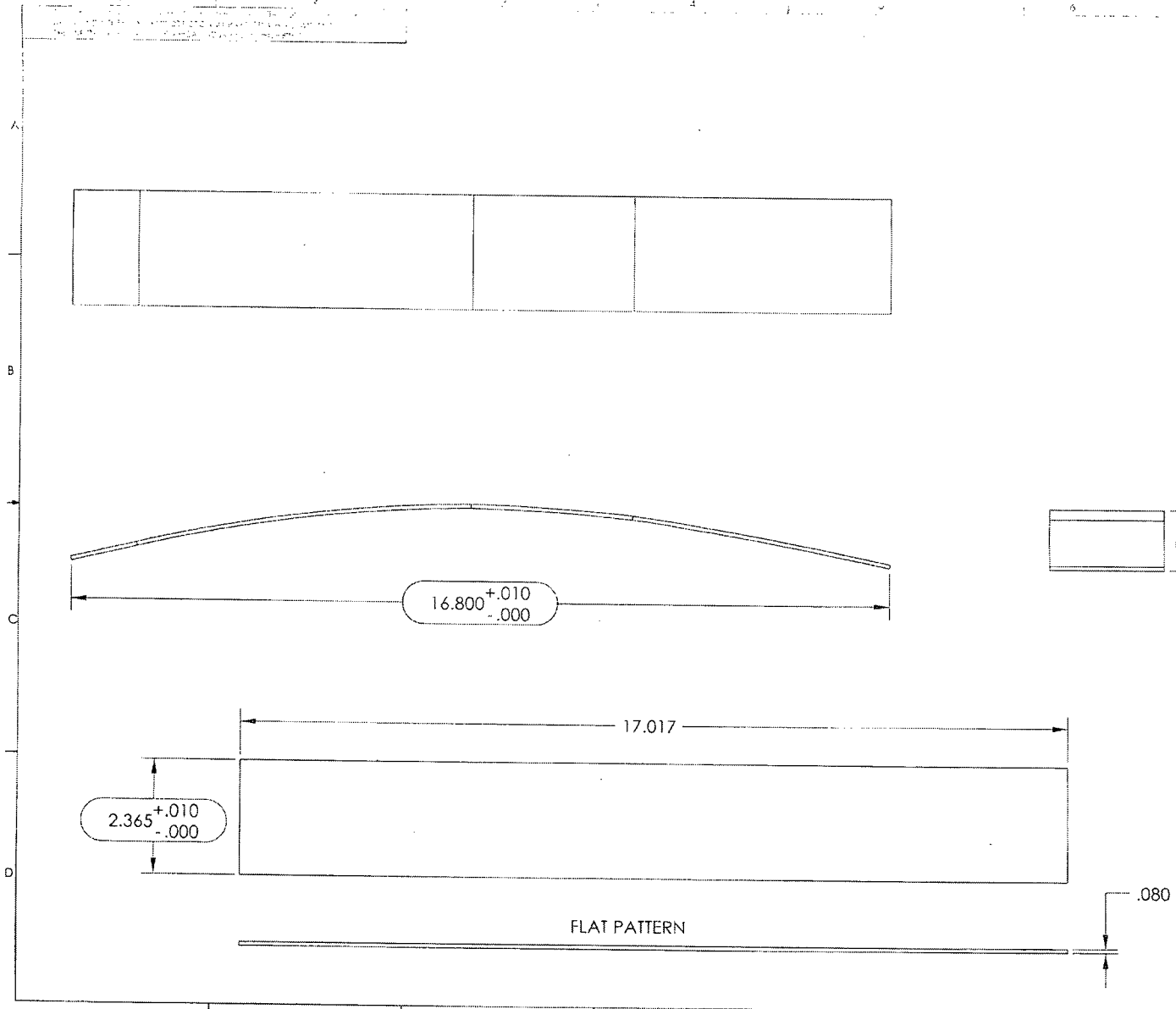
ORIGINAL DATE		REV. NO.	
DRAWN BY		CHECKED BY	
R. ROSS		P. BRADY	
APPROVED BY		DATE	
R. ROSS		07/12/82	
APICAL INDUSTRIES		SHEETMETAL	
2608 TEMPLE HEIGHTS DR.		647.9000	
OCEANSIDE, CA. 92056-3512 (760)724-5300		SCALE NONE	
SHEET # OF 9		REV. N/C	

92982

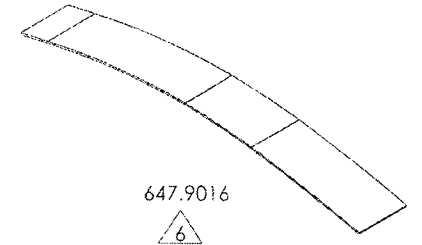


ORIGINAL DATE 06-15-10		APICAL INDUSTRIES	
DESIGNED BY K. ROKASO	CHECKED BY J. BRAYCO	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL K. ROKASO		SHEETMETAL	
UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES		REV B	DATE 07/1/16
		QTY 1	NO. 647.9000
		SCALE NONE	SHEET 5 OF 9

92982



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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647.9016

6

1.247<sup>+.010</sup>  
- .000

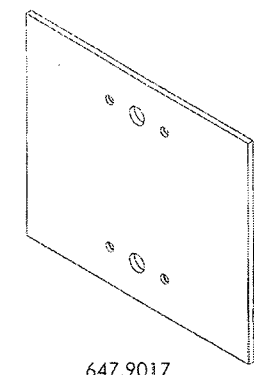
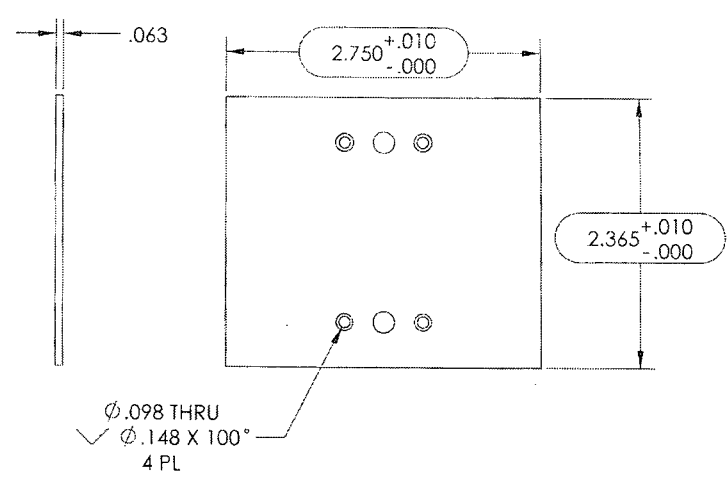
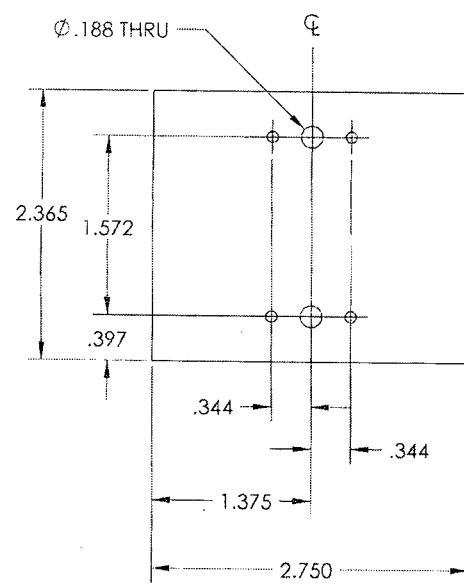
FLAT PATTERN

.080

ORIGINAL DATE		APICAL INDUSTRIES	
DESIGNED BY	DATE	2608 TEMPLE HEIGHTS DR.	
DRAWN BY	DATE	OCEANSIDE, CA. 92056-3512 (760) 724-5300	
CHECKED BY	DATE	SHEETMETAL	
APPROVED BY	DATE	SCALE NONE	
LATEST COMPANY SPEC. FILED		SHEET 6 OF 9	
TOLERANCES UNLESS OTHERWISE SPECIFIED			
DIMENSIONS ARE IN INCHES			
FRACTIONS TO 16THS			
DECIMALS TO 3 PLACES			
ANGLES TO 15'			

92982

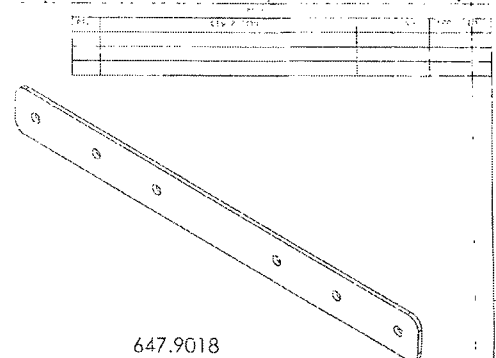
A  
B  
C  
D



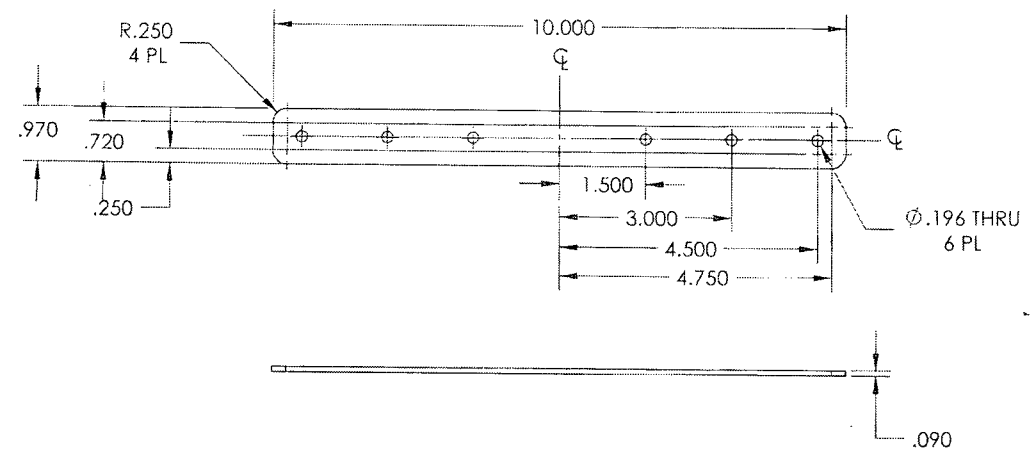
ORIGINAL DATE		APICAL INDUSTRIES	
MODIFIED BY	DATE	2608 TEMPLE HEIGHTS DR.	
DRAWN BY	DATE	OCEANSIDE, CA. 92056-3512 (760)724-5300	
CHECKED BY	DATE	SHEETMETAL	
DESIGNED BY	DATE		
INSTRUCTIONS TO SPECIFIC		REV	DATE
DRAWING IS TO BE		8	07/12/86
3 PLACE DECIMALS 1/16"		OWN NO	647.9000
3 PLACE DECIMALS 1/32"		SCALE	NONE
ANGLES 2:1		SHEET	7 OF 9

92982

APICAL INDUSTRIES  
2608 TEMPLE HEIGHTS DR.  
OCEANSIDE, CA 92056-3512 (760)724-5360



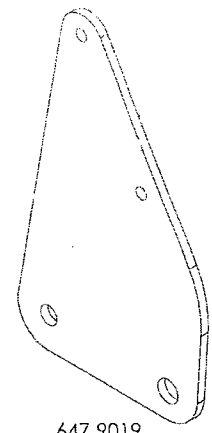
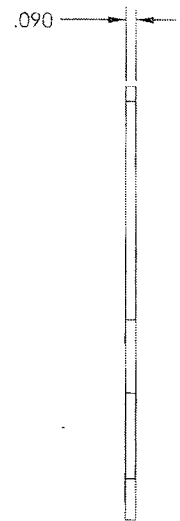
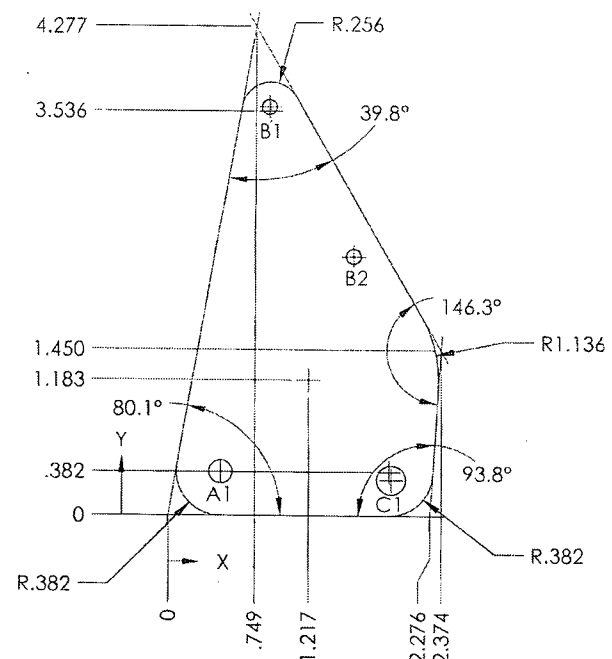
PR2



ORIGINAL DATE: 08-13-10		APICAL INDUSTRIES	
DRAWN BY: J. BRAYO		2608 TEMPLE HEIGHTS DR.	
CHECKED BY: J. BRAYO		OCEANSIDE, CA 92056-3512 (760)724-5360	
APPROVED BY: J. BRAYO		SHEETMETAL	
PROJECT NO.:		DWG. NO. 647.9000	REV. N/C
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		SCALE: NONE	SHEET 8 OF 9
TOLERANCES ARE: FRACTIONS: 1/32 DECIMALS: .005 ANGLES: .5°			

92902

PR2



647.9019

TAG	X LOC	Y LOC	SIZE
A1	.455	.382	Ø.201 THRU
B1	.867	3.573	Ø.130 THRU
B2	1.614	2.266	Ø.130 THRU
C1	1.939	.312	Ø.250 THRU

ORIGINAL DATE: 06-10-79		APICAL INDUSTRIES	
DRAWN BY: P. ROSANO		2608 TEMPLE HEIGHTS DR.	
CHECKED BY: P. ROSANO		OCEANSIDE, CA. 92056-3512 (760) 724-5300	
DRAWING APPROVAL: P. ROSANO		SHEETMETAL	
DATE: 07/11/88		QNTY: 647.9000	REV: N/C
SCALE: NONE		SHEET: 9 OF 9	

